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ABSTRACT

This Digest points out characteristics of quality computer software for children, describes different kinds of software, and suggests ways to get software for preview. The need to consider the purpose for which the software is to be used and the degree to which the software meets its stated goals is noted. Desirable software characteristics and program features are suggested in a list of questions to ask when considering software purchases. Highly structured programs, such as computer games, drill and practice programs, and tutorials are described. Also discussed are programs which offer children opportunities for creative responses, such as simulations and LOGO. Concluding remarks offer specific directions for locating software for preview and stress the importance of taking the child's point of view in assessing software and in designing software for children. (RH)

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ERIC Digest

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Choosing Software for Children

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The growing number of children who use computers in school or at home has spurred interest in software for children which challenges their abilities and extends their understanding. Teachers and parents are asking what software is "good" and where to find it. This Digest discusses characteristics of good quality children's software, describes different kinds of software, and suggests ways to obtain software to preview.

Software Use

A first step in choosing children's software is to consider its purpose. Is it intended to entertain or to teach? To provide art or music experiences? To develop writing or programming skills?

A second step is to determine how well the program succeeds in its goals. In any case, the effectiveness of any software will be influenced by the age and experience of the child using it.

Software Characteristics and Program Features

Good quality children's software can often be recognized by the presence of certain characteristics or program features. The questions below suggest what to look for in programs for children.

- Does the software contribute to children's comprehension of the world around them? Does it both foster and satisfy curiosity?
- Is the program content appropriate and interesting for children?
- Does the software require a high degree of interaction from the children, calling for thoughtful responses and providing options which require children to make choices?
- Are clear directions for running the program provided, and does the program consistently respond as expected?
- If the software is advertised as a program children can run themselves, can they do this easily? If adult help is needed initially, can a child manage alone after some experience with the software?
- Is the program designed so that it is likely to be used repeatedly, even by the same child, thus justifying the cost?

Well-designed graphics, color and sound, and reinforcement features which are intrinsically related to the program's content also contribute to a program's quality. Children's ability to follow different paths as a result of choices made while operating a program increases their interest and allows a child the satisfaction of directing the program in some measure.

Highly Structured Programs

Some computer programs can be described as more structured than others with respect to the number and variety of responses they allow children to make. Software in which acceptable responses to choices are already pre-programmed requires children to match responses in the computer's memory rather than to create their own. Brief descriptions of some "highly structured" programs are given below.

Computer Games. Computer games are among the most popular software for children. Most of these games are highly structured, although some of the newer ones invite children to make more choices than earlier versions.

Drill and Practice. Drill and practice software gives children practice in doing arithmetic problems or developing prereading skills, reinforcing what children have already learned. One advantage of these programs is that the better ones give immediate feedback or move the child to an easier or more challenging drill according to the child's previous answers.

Good drill and practice programs take advantage of the special capabilities of the computer (animation, chance to try again, choice options, and so on) to enhance content presentation and encourage the child to interact with the computer. On the other hand, it can be argued that drill and practice exercises are widely available in workbooks and that programs which make more imaginative use of the computer's capabilities are preferable.

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Tutorials. Tutorials are educational programs designed to present topical information to children who already read. Children can frequently go through tutorials by themselves. Content questions and self-tests help to sustain interest in the subject being presented.

Less Structured Software

Software which encourages self-expression or invites a child to give creative responses to questions is characterized by few preset responses; children may be asked to use computer "tools" such as a word processing program, preprogrammed musical tones, or a color palette to create their own stories, composition, designs. Two examples of open-ended software follow.

Simulations. Among the most complex and intriguing programs for children who know how to read, simulations ask a child to play a role in a specific situation. The child is then presented with alternative choices to help solve a problem or move through an experience. Later choices are based on the consequences of previous ones. For example, a simulation for older children might involve a journey for which children must decide which supplies to buy, which direction to travel, how to meet specified hardships, and so on.

Younger children might be asked to shop in a grocery store, using pictures to select food to be eaten by a family in a week. As yet, few simulations are available for younger children.

LOGO. This computer language, which uses a "turtle" triangle to indicate direction, was developed for children at the Massachusetts Institute of Technology under Seymour Papert. Children can think of a design such as a house or circle, determine the programming steps needed to represent it graphically, and use the turtle to create the image on the computer screen. Originally designed to help children learn mathematical concepts and programming while exploring the capabilities of the computer, LOGO provides a computer environment in which children can experiment creatively and develop a sense of their own power over the computer.

Previewing Software

Whatever the degree of structure, finding copies of programs to preview (or to try out with children) is often difficult because computer stores seldom carry a large stock of children's software. Also, a program may not be available for every make of computer. Check first to see if the program you want matches the computer on which it is to be used. As a program may cost from $20.00 to $50.00, previewing before purchase is important. To locate software to preview:

- Read software reviews in computer magazines and make a list of programs you would like to try.
- Ask other teachers or parents to recommend good software.
- See if your library has a children's software collection.
- Ask for a demonstration of children's software at your local computer store.
- Visit a friend who has a program you want to preview and ask to try out the software.
- Write to software producers asking to borrow software for a specified trial period, agreeing in advance that no copies will be made.

As you preview, remember that a program adults enjoy is not necessarily appealing to children; conversely, software which delights children may miss the mark with adults.

A well-designed, easy to use program with interesting content that also shows awareness of children's love for the ridiculous, the repetitious, or the surprising is a find. When choosing software, look for programs which reflect understanding of children, and invite children to contribute from their own experiences.

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